

1 WHAT IS CLAIMED IS:

1 1. A disk drive, comprising:

2 a disk;

3 a single supply of voltage;

4 a head stack assembly for reading and writing to the disk, including:

5 a body portion;

6 an actuator arm cantilevered from the body portion;

7 a coil portion cantilevered from the body portion in an opposite direction from the
8 actuator arm, the coil portion including a coil assembly having a first wound coil and a second
9 wound coil, the first coil defining a first pair of coil leads and the second wound coil defining a
10 second pair of coil leads, and

11 a switching circuit electrically coupled to the single supply of voltage and to the first and
12 second pairs of coil leads, the switching circuit being configured to selectively switch the first
13 and second wound coils between a first configuration and a second configuration in which the
14 first wound coil is electrically in parallel with the second wound coil, the second configuration
15 being different from the first configuration.

1 2. The disk drive of claim 1, wherein in the first configuration, the first wound coil
2 is electrically in series with the second wound coil.

1 3. The disk drive of claim 1, wherein in the first configuration, the first wound coil
2 is electrically disconnected from the second wound coil.

1 4. The disk drive of claim 1, wherein the first wound coil and the second wound coil
2 are both formed of wire having a same gauge.

1 5. The disk drive of claim 1, wherein the first wound coil and the second wound coil
2 are each formed of wire having a different gauge.

1 6. The disk drive of claim 1, wherein the first wound coil and the second wound coil
2 are both formed of a same number of coil turns.

1 7. The disk drive of claim 1, wherein the first wound coil and the second wound coil
2 are each formed of a different number of coil turns.

1 8. The disk drive of claim 1, wherein the first wound coil and the second wound coil
2 have substantially a same resistance.

1 9. The disk drive of claim 1, wherein each of the first wound coil and the second
2 wound coil has a different resistance.

1 10. The disk drive of claim 1, wherein the coil assembly is configured to be supplied
2 with a constant voltage and with a first current of a first magnitude when the switching circuit
3 switches the first and second wound coils into the first configuration and a second current of a
4 second magnitude when the switching circuit switches the first and second wound coils into the
5 second configuration, the second magnitude being greater than the first magnitude.

1 11. The disk drive of claim 10, wherein the switching circuit is configured to switch
2 the first and second wound coils into the second configuration only during selected seek
3 operations.

1 12. The disk drive of claim 10, wherein the switching circuit is configured to switch
2 the first and second wound coils into the second configuration for a time period that is controlled
3 such that a temperature of the coil assembly does not exceed a predetermined threshold.

1 13. The disk drive of claim 1, wherein the first and second wound coils are adhesively
2 attached to one another.

1 14. The disk drive of claim 1, wherein the first pair of coil leads includes a first coil
2 lead and a second coil lead, the second pair of coil leads includes a third coil lead and a fourth
3 coil lead, and the disk drive further comprises a first flex circuit including a first flex circuit lead,
4 a second flex circuit lead, a third flex circuit lead and a fourth flex circuit lead, and wherein the
5 switching circuit selectively connects the first coil lead to the first flex circuit lead, selectively
6 connects the second coil lead to the second flex circuit lead, selectively connects the third coil
7 lead to the third flex circuit lead and selectively connects the fourth coil lead to the fourth flex
8 circuit lead.

1 15. The disk drive of claim 1, wherein the switching circuit is configured to cause the
2 coil assembly to exert a first maximum torque on the head stack assembly when the first and
3 second wound coils are switched to the first configuration and wherein the switching circuit is
4 configured to cause the coil assembly to exert a second maximum torque on the head stack
5 assembly when the coil assembly is in the second configuration, the second maximum torque
6 being greater than the first maximum torque.

1 16. A head stack assembly for a disk drive, comprising:

2 a body portion;

3 an actuator arm cantilevered from the body portion;

4 a coil portion cantilevered from the body portion in an opposite direction from the
5 actuator arm, the coil portion including a coil assembly having a first wound coil and a second
6 wound coil, the first coil defining a first pair of coil leads and the second wound coil defining a
7 second pair of coil leads, and

8 a switching circuit that is configured to be electrically coupled to a single supply of
9 voltage and to the first and second pairs of coil leads, the switching circuit being configured to
10 selectively switch the first and second wound coils between a first configuration and a second
11 configuration in which the first wound coil is electrically in parallel with the second wound coil,
12 the second configuration being different from the first configuration.

1 17. The head stack assembly of claim 16, wherein in the first configuration, the first
2 wound coil is electrically in series with the second wound coil.

1 18. The head stack assembly of claim 16, wherein in the first configuration, the first
2 wound coil is electrically disconnected from the second wound coil.

1 19. The head stack assembly of claim 16, wherein the first wound coil and the second
2 wound coil are both formed of wire having a same gauge.

1 20. The head stack assembly of claim 16, wherein each of the first wound coil and the
2 second wound coil is formed of wire having a different gauge.

1 21. The head stack assembly of claim 16, wherein the first wound coil and the second
2 wound coil are both formed of a same number of coil turns.

1 22. The head stack assembly of claim 16, wherein each of the first wound coil and the
2 second wound coil is formed of a different number of coil turns.

1 23. The head stack assembly of claim 16, wherein the first wound coil and the second
2 wound coil have substantially a same resistance.

1 24. The head stack assembly of claim 16, wherein each of the first wound coil and the
2 second wound coil has a different resistance.

1 25. The head stack assembly of claim 16, wherein the coil assembly is configured to
2 be supplied with a constant voltage and with a first current of a first magnitude when the
3 switching circuit switches the first and second wound coils into the first configuration and a
4 second current of a second magnitude when the switching circuit switches the first and second
5 wound coils into the second configuration, the second magnitude being greater than the first
6 magnitude.

1 26. The head stack assembly of claim 16, wherein the first and second wound coils
2 are adhesively attached to one another.